Amendments to the Claims

The following claim listing reflects the status of the claims pending in this application.

1. (**Previously Presented**) A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface; and

a piezoactuator for controlling a direction of said light beam.

2. (**Original**) The sighting device according to claim 1, wherein said piezoactuator is a piezo-bending actuator.

3. (**Previously Presented**) The sighting device according to claim 1, wherein the sighting device further comprises a segmented mirror for dividing the light beam emitted by said light source into a plurality of beams.

4. (**Previously Presented**) The sighting device according to claim 1, wherein said light source is a laser; and wherein the sighting device further comprises a first mirror attached to said piezoactuator, wherein the first mirror is adapted to be moved by said piezoactuator and wherein the first mirror deviates the light beam to a segmented mirror, wherein each segment of said segmented mirror reflects said light beam to said measuring surface.

5. (**Previously Presented**) The sighting device according to claim 3, wherein said segmented mirror comprises central segments and outer segments, wherein said central segments of said segmented mirror are larger than said outer segments.

6. (**Previously Presented**) The sighting device according to claim 1, wherein the sighting device further comprises an X-actuator and a Y-actuator for controlling said direction of said light beam in two dimensions on said measuring surface.

7. (**Original**) The sighting device according to claim 1, wherein the light source is attached to said actuator.

8. (**Previously Presented**) The sighting device according to claim 1, wherein said light source is rotatably suspended and said light source comprises a guide mechanism into which said piezoactuator is rotatably mounted.

9. (**Previously Presented**) The sighting device according to claim 1, wherein said light source is rotatably suspended and said light source is connected with said piezoactuator such that said actuator can rotate said light source.

10. (**Previously Presented**) The sighting device according to claim 1, wherein said piezoactuator comprises at least one metallized part; said light beam falling upon said metallized part of said piezoactuator wherein said piezoactuator changes said direction of said light beam in response to a voltage applied to said piezoactuator.

11. (**Original**) The sighting device according to claim 1, wherein the sighting device changes said direction of said light beam stepwise so that said light beam marks said measuring surface with points.

12. (**Previously Presented**) A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface; and

an actuator for controlling a direction of said light beam; said actuator comprising a coil mounted to a means for varying the direction of said light beam; and a magnet positioned to move said coil in response to a current flow through said coil wherein said means varies the direction of said light beam.

13. (**Previously Presented**) The sighting device according to claim 12, wherein the sighting device comprises a segmented mirror for dividing the light beam emitted by said light source into different sighting beams according to a time-division multiplex method.

14. (**Previously Presented**) The sighting device according to claim 12, wherein said light source is a laser; wherein the means for varying the direction of said light beam comprises a first mirror movable by said actuator to deviate said light beam to a segmented mirror, wherein each segment of said segmented mirror reflects said light beam to said measuring surface.

15. (**Previously Presented**) The sighting device according to claim 13, wherein said segmented mirror comprises central segments and outer segments, wherein said central segments of the segmented mirror are larger than said outer segments.

16. (**Previously Presented**) The sighting device according to claim 12, wherein said actuator comprises an X-actuator and a Y-actuator for controlling a position of said light beam in two dimensions on said measuring surface.

17. (**Original**) The sighting device according to claim 12, wherein said light source is attached to said actuator.

18. (**Previously Presented**) The sighting device according to claim 12, wherein said light source is rotatably suspended and said light source comprises a guide mechanism into which said actuator is rotatably mounted.

19. (**Original**) The sighting device according to claim 12, wherein the sighting device changes said direction of said light beam stepwise so that said light beam marks said measuring surface with points.

20. (**Previously Presented**) The sighting device according to claim 19, wherein said light beam is guided in a circular pattern at a constant angular velocity and that the stepwise change of said direction of said light beam is accomplished by a sectorized mirror comprising three concave sectors.

21. (**Previously Presented**) A sighting device for a radiometer for visibly marking a measuring surface, a temperature of which is measured by said radiometer, comprising:

at least three light sources, each of which emits a visible light beam, said light sources being arranged such that said visible light beams generate a plurality of points at an edge of said measuring surface; and

a control circuit for switching said light sources on and off, said control circuit adapted such that at most two light sources are on simultaneously.

22. (**Previously Presented**) The sighting device according to claim 21, wherein said sighting device further comprises means for providing said plurality of points in a predefined order at a frequency of up to 20 Hz so that a user has a visual impression that a point travels around said measuring surface; said frequency being in a monotonous relationship with an absolute value of a time derivative of said temperature measured by said radiometer.

23. (**Previously Presented**) The sighting device according to claim 21, wherein said plurality of points is illuminated by said each light beam at a frequency of more than 25 Hz so that a human eye perceives the marking as a standing image.

24. (**Previously Presented**) The sighting device according to claim 21, wherein the sighting device further comprises means for illuminating at least one of the light sources to indicate a measured state.

25. (**Previously Presented**) The sighting device according to claim 21, wherein the sighting device further comprises means for providing a first subgroup of said plurality of points in a predefined order at a frequency of up to 20 Hz and means for providing a second subgroup of said plurality of points at a frequency of up to 25 Hz; said first and second subgroup displaying measured states.

26. (**Original**) The sighting device according to claim 21, wherein said control circuit comprises a switching circuit including a switching element for each light source; each light source being connected to a switching element and all switching elements being connected to a controller, wherein said controller controls the brightness of said light source connected therewith.

27. (**Previously Presented**) The sighting device according to claim 26, wherein said control circuit further comprises a digital/analog converter and a processor; said processor being connected to said switching circuit for controlling said switching circuit and for switching on one of said light sources; said processor being connected to said digital/analog converter and supplying a digital target value to said digital/analog converter; said digital/analog converter converting said digital target value into an analog target value supplied by said digital/analog converter to said controller, wherein said controller is supplied with an actual value from a photodiode; said photodiode measuring said brightness of one of said light sources; and said controller supplying an output signal to said one of said light sources via said switching circuit.

28. (**Previously Presented**) A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, the sighting device comprising:

a light source for emitting a visible light beam; and

a sectorized mirror upon which said light beam falls, said sectorized mirror causing a stepwise change of direction of said light beam wherein a plurality of reflected light beams marks said measuring surface.

29. (**Previously Presented**) The sighting device according to claim 28, wherein said sectorized mirror comprises at least three concave sectors.

30. (**Original**) A sighting device for a radiometer for visibly marking a measuring surface, said temperature of which is measured by said radiometer, comprising:

a light source mounted in a housing;

an individual receptacle having a hollow space being larger than the outer dimensions of a housing of said light source and receiving said housing of said light source; and

a fixation fixing said housing of said light source in said hollow space; said fixation being formed such that an optical axis of said light source extends parallel to a mechanical axis of said individual receptacle.

31. (**Original**) The sighting device according to claim 30, wherein the outer shape of each individual receptacle is conical.

32. (**Previously Presented**) The sighting device according to claim 30, wherein the sighting device further comprises an overall receptacle having a hollow space for each individual receptacle, wherein an inner surface area of each hollow space of said overall receptacle has a positive fit with an outer shape of said individual receptacle when said individual receptacle is positioned into said hollow space.

33. (**Previously Presented**) A sighting device for a radiometer for visibly marking a measuring surface, a temperature of which is measured by said radiometer, comprising:

a plurality of light sources emitting visible light for marking the measuring surface; and

a plurality of individual receptacles; one individual receptacle being provided for fixedly receiving each light source, wherein an optical axis of each light source is aligned parallel to a mechanical axis of said corresponding individual receptacle.

34. (**Original**) The sighting device according to claim 33, wherein an outer shape of each individual receptacle is conical.

35. (**Previously Presented**) The sighting device according to claim 33, wherein the sighting device further comprises an overall receptacle; said overall receptacle having a hollow space for each individual receptacle, wherein an inner surface area of each hollow space of said overall receptacle has a positive fit with an outer shape of said individual receptacle when said individual receptacle is positioned into said hollow space.

36. (**Previously Presented**) A radiometer, comprising:

an IR detector;

a lens being arranged with respect to said IR detector such that the lens focuses IR radiation from a measuring surface to said detector; and

a light source emitting visible light for marking said measuring surface; said marking providing a visible indication based upon a reading of said IR detector.

37. (**Previously Presented**) The radiometer according to claim 36, wherein an optical axis is defined by said IR detector and said lens, and wherein a beam path of said visible light emitted by said light source extends towards said optical axis, said radiometer further comprising a deviating means in the proximity of said optical axis, said deviating means adapted to deviate said beam path of said visible light.

38. (**Previously Presented**) The radiometer according to claim 37, wherein said deviating means comprises a means for deflecting light beams encountering said deviating means at different locations about different angles.

39. (**Previously Presented**) The radiometer according to claim 37, wherein said deviating means comprises a prism.

40. (**Original**) The radiometer according to claim 37, wherein said deviating means is formed by a mirror.

41. (**Original**) The radiometer according to claim 37, wherein said deviating means comprises a hole about said optical axis through which said IR radiation can fall upon said detector.

42. (**Original**) The radiometer according to claim 37, wherein a second lens for visible light is arranged between said light source and said deviating means.

43. (**Original**) The radiometer according to claim 36, wherein said lens comprises a bore where said visible light passes said lens.

44. (**Previously Presented**) A radiometer comprising:

an IR detector;

a light source emitting visible light for marking a measuring surface; and

a lens arranged with respect to said IR detector, wherein said IR detector and said lens define an optical axis and wherein the lens focuses IR radiation from the measuring surface to said detector;

said lens being inclined versus said optical axis so that a first reflected portion of said IR radiation encountering an outer side of said lens is smaller than a second reflected portion of the light of said light source encountering said outer side of said lens.

45. (**Original**) A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface; and

controlling a direction of said light beam by means of a piezoactuator.

46. (**Previously Presented**) A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface; and

controlling said direction of said light beam by means of an actuator, wherein said actuator comprises a coil mounted to a means for varying the direction of said light beam; and a magnet positioned to move said coil in response to a current flow through said coil wherein said means varies the direction of said light beam.

47. (**Previously Presented**) A method for a radiometer of visibly marking a measuring surface, the method comprising:

emitting visible light beams by at least three light sources for marking said measuring surface, each light source emitting one light beam; and

switching said light sources on and off, at most two light sources being switched on simultaneously.

48. (**Previously Presented**) A method for a radiometer of visibly marking a measuring surface, the method comprising:

emitting a visible light beam by a light source for marking said measuring surface;

guiding said light beam in a circular pattern at a constant angular velocity; and

changing a direction of said light beam stepwise by a sectorized mirror.

49. (**Previously Presented**) A method for a radiometer for adjusting a light source for visibly marking a measuring surface, the method comprising

introducing a housing of a light source into an individual receptacle;

aligning an optical axis of said light source parallel to a mechanical axis of said individual receptacle; and

fixing said housing of said light source within said individual receptacle.

50. (**Previously Presented**) A method for a radiometer for adjusting a light source for visibly marking a measuring surface of said radiometer, the method comprising:

introducing each light source of a plurality of light sources outputting visible light to mark said measuring surface into an individual receptacle;

aligning an optical axis of each said light sources parallel to a mechanical axis of said corresponding individual receptacle

assembling said light sources together with said receptacles into a sighting device.

51. (**Previously Presented**) A method for a radiometer comprising:

focusing IR radiation emitted by a measuring surface by means of a lens on an IR detector;

determining a temperature of said measuring surface on the basis of a signal supplied by said IR detector;

marking said measuring surface by visible light; and

indicating with said marking at least one of a measured state and a change of temperature based upon said determined temperature.

52. (**Previously Presented**) A method for a radiometer comprising:

focusing IR radiation emitted by a measuring surface by means of a lens on an IR detector, said lens being inclined versus an optical axis;

determining a temperature of said measuring surface on the basis of a signal supplied by said IR detector;

emitting visible light onto an outer surface of said lens and reflecting at least some of said visible light from said outer surface upon the measuring surface; and

marking said measuring surface with said visible light reflected by said outer surface of said lens.

53. (**Previously Presented**) The sighting device according to claim 3, wherein the dividing of the light beam is practiced according to a time-division multiplex method.

54. (**Previously Presented**) The sighting device according to claim 24, wherein the means for illuminating at least one of the light sources to indicate a measured state comprises means for illuminating a subgroup of points associated with the measured state.

55. (**Previously Presented**) The sighting device according to claim 24, wherein the measured state comprises at least one of a temperature within a temperature range, a temperature exceeding a temperature value, and a temperature less than a temperature value.

56. **(Previously Presented)** The sighting device according to claim 21, wherein the sighting device further comprises means for illuminating at least one of the light sources to indicate a battery alarm.

57. **(Previously Presented)** The radiometer according to claim 36, wherein a beam path of the visible light for marking said measuring surface extends through said lens.

58. **(Previously Presented)** The method according to claim 51, wherein marking said measuring surface by visible light comprises guiding said visible light through said lens.

59. **(Previously Presented)** The sighting device according to claim 10, wherein said at least one metallized part comprises at least one partially metallized part.

60. **(Previously Presented)** The sighting device according to claim 28, wherein said sighting device further comprises means for guiding said light beam at a constant angular velocity.

61. **(Previously Presented)** The method according to claim 52, wherein reflecting at least some of the visible light from said outer surface upon the measuring surface is practiced whereby a reflected portion of said IR radiation encountering an outer side of said lens is smaller than said reflected portion of said visible light of said light source encountering said outer side of said lens.

62. **(Previously Presented)** The radiometer according to claim 36, wherein the visible indication comprises a visible rotational indication based upon the reading of said IR detector.

63. **(Previously Presented)** The radiometer according to claim 62, wherein the visible rotational indication comprises one of a clockwise and a counter-clockwise visible rotational indication.

64. **(Previously Presented)** The radiometer according to claim 36, wherein the visible indication comprises a visible frequency indication based upon the reading of said IR detector.

65. **(Previously Presented)** The radiometer according to claim 64, wherein the visible frequency indication comprises a change in rotational frequency of the marking.

66. **(Previously Presented)** The radiometer according to claim 36, wherein the visible indication comprises one of flashing and flickering.

67. **(Previously Presented)** The method according to claim 51, wherein indicating with said marking comprises varying said marking.

68. **(Previously Presented)** The method according to claim 67, wherein varying said marking comprises varying one of a rotational frequency, a rotational direction, and illumination of said marking.

69. **(Previously Presented)** The radiometer according to claim 36, wherein the visible indication comprises a dynamic visible indication.

70. **(Previously Presented)** The method according to claim 51, wherein indicating with said marking comprises dynamically indicating with said marking.